

AMENDMENTS TO THE CLAIMS

1. (Currently Amended): An apparatus ~~A system~~ for protecting an enclosure against chemical weapons and/or biological pathogens by the detection of said chemical weapons and/or biological pathogens and the treatment of said chemical weapons and/or biological pathogens agents within air inside of an enclosed airspace that is a gathering area for people, comprising:

a detection ~~system~~ means for detecting said chemical weapons and/or biological pathogens agents, said detection means operatively connected to said air inside of said enclosed airspace,

E¹
a treatment ~~system~~ means for receiving and treating said chemical weapons and/or biological pathogens agents by receiving said air and treating said chemical weapons and/or biological pathogens agents within said air, inside of said enclosed airspace said treatment means operatively connected to said enclosed airspace and positioned to receive said air, and

a control ~~means responsive to said detection system,~~ for activating said treatment ~~system~~ means in response to detection of said chemical weapons and/or biological pathogens agents by said detection means, said control means operatively connected to said detection means and to said treatment ~~system~~ means ~~treating said air inside of said enclosed airspace.~~

2. (Currently Amended): The ~~system~~ apparatus of claim 1 wherein said detection ~~system~~ means utilizes immunoassays and said immunoassays include antibody based or synthetic-peptide based immunoassays.

3. (Currently Amended): The ~~system~~ apparatus of claim 1 wherein said detection ~~system~~ means utilizes nucleic-acid-based assays and said nucleic-acid-based assays include polymerase chain reaction immunoassays.

4. (Currently Amended): The ~~system~~ apparatus of claim 1 wherein said detection ~~system~~ means utilizes mass-spectrometric-based assays.

5. (Currently Amended): The ~~system~~ apparatus of claim 1 wherein said detection ~~system~~ means utilizes a plurality of assays and said detection ~~system~~ means utilizes a plurality of assays include antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays and said antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays include polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

6. (Currently Amended): The ~~system~~ apparatus of claim 1 including a circulation system for circulating said air to said detection ~~system~~ means and said treatment ~~system~~ means and a wherein said control means is connected to said treatment ~~system~~ means and said circulation system for inactivating said circulation system if said treatment ~~system~~ means shuts down prematurely.

7. (Previously Amended): A method for protecting an enclosure against chemical weapons and/or biological pathogens by the detection of said chemical weapons and/or biological pathogens and by the treatment of said chemical weapons and/or biological pathogens agents within the air inside of an enclosed airspace that is a gathering area for people, the air circulated in an air stream, comprising:

circulating said air within said air stream,
detecting said chemical weapons and/or biological pathogens agents,
generating a signal upon detection of said chemical weapons and/or biological pathogens agents, and

using said signal to activate a treatment system connected to said air stream for treating said chemical weapons and/or biological pathogens agents, said treatment system treating said air within said air stream.

8. (Previously Amended): The method of claim 7, including the step of stopping said circulation system if said treatment system shuts down.

9. (Previously Amended): An apparatus that detects the presence of airborne chemical weapons and/or biological pathogens threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system and treats said chemical weapons and/or biological pathogens threats, said forced-air circulation system circulating an air stream, comprising:

an autonomous chemical and pathogen detector within the said forced-air circulation system that detects the presence of airborne chemical weapons and/or biological pathogens threats,

a treatment system for treating said chemical weapons and/or biological pathogens threats, said treatment system treating said air stream, and

a control, responsive to said autonomous chemical and pathogen detector, for activating said treatment system in response to detection of said chemical weapons and/or biological pathogens agents.

10. (Previously Amended): An apparatus that detects and identifies the presence of airborne chemical and/or biological threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system, said forced-air circulation system circulating an air stream, comprising:

an autonomous chemical and/or pathogen detector means within the said forced-air circulation system for detecting, identifying, and quantifying the presence of airborne chemical weapons and/or biological pathogens threats,

treatment means for treating said chemical weapons and/or biological pathogens threats, said treatment system treating said air stream, and

control means, responsive to said autonomous chemical and pathogen detector means, for activating said treatment means in response to detection of said chemical weapons and/or biological pathogens agents.

11. (Previously Amended): An apparatus that detects, identifies, and quantifies the presence of airborne chemical weapons and/or biological pathogens threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system and treats said airborne chemical weapons and/or biological pathogens threats, said forced-air circulation system circulating an air stream, comprising:

an autonomous chemical and/or pathogen detector within the said forced-air circulation system that detects, identifies, and quantifies the presence of airborne chemical weapons and/or biological pathogens threats,

a treatment system for treating said chemical weapons and/or biological pathogens threats, said treatment system treating said air stream, and

a control, responsive to said autonomous chemical and/or pathogen detector, for activating said treatment system in response to detection of said chemical weapons and/or biological pathogens agents.

12. (Previously Amended): The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes immunoassays and said immunoassays include antibody based or synthetic-peptide based immunoassays.

13. (Previously Amended): The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes nucleic-acid-based assays and said nucleic-acid-based assays include the polymerase chain reaction.

14. (Previously Amended): The apparatus of claim 11 wherein said autonomous chemical and/or pathogen detector utilizes mass-spectrometric-based assays.

15. (Previously Amended): The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes a plurality of assays and said plurality of assays include antibody based or synthetic-peptide based

immunoassays, nucleic-acid-based assays and said antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays include the polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

16. (Previously Amended): The apparatus of claim 11 wherein said treatment system utilizes an electrostatic precipitator.

17. (Previously Amended): The apparatus of claim 11 wherein said treatment system utilizes an aqueous-based spray/aerosol scrubbing system.

18. (Previously Amended): The apparatus of claim 11 wherein said treatment system utilizes both electrostatic precipitation and an aqueous-based spray/aerosol scrubbing system.
